

trivia questions about a player or sport team, or the spectators may be encouraged to make as much noise as possible. In response to the answers provided by users, or level of noise created by the crowd (e.g. on a section-by-section basis or and individual basis), communication server **300** would provide an appropriate luminescent pattern for display by each respective wireless mobile client.

Referring once again to **Figure 3**, pattern selection services **306** assists in determining which luminescent pattern or patterns are to be transmitted to wireless mobile clients **108**. The patterns to be transmitted to a given wireless mobile client may be determined based upon one or more criteria including, but not limited to venue identification, event type, wireless mobile client location, dial number used during registration, feedback from the wireless mobile client, and so forth. In one embodiment, representations of constituent luminescent patterns are stored within visualization configuration records **310** for retrieval and transmission to one or more wireless mobile clients **108**.

From time to time, it may be desirable to synchronize one or more luminescent patterns to be displayed by multiple wireless mobile clients, or sequences of luminescent patterns to be displayed by one or more wireless mobile clients. For example, to impart a sense of animation within a given crowd pattern, the same luminescent pattern or sequence of patterns may be displayed by differently located groups of wireless mobile clients at differing times (i.e. synchronized by location). Accordingly, it is possible to visually convey a crowd pattern in the form of an animation or a word that is displayed e.g. letter by letter rather than the entire word appearing in its entirety at a single point in time. Synchronization services **307** of communication server

300 facilitate such luminescent pattern synchronization amongst one or more wireless mobile clients.

In one embodiment of the present invention, synchronization services **307** transmit the current time and a start time to each wireless mobile client for each sequence of luminescent patterns to be displayed. Additionally, a delay time may be included that specifies an amount of time that a wireless mobile client is to delay between the display of one luminescent pattern and the next. For example, communication server **300** may transmit a sequence of ten luminescent patterns to each wireless mobile client participating in one or more crowd patterns. Included with the sequence, or subsequent to the sequence, would be a time at which each respective wireless mobile client should begin the display of the sequence of luminescent patterns as well as a duration (e.g. 0.1 sec) for which each respective wireless mobile client is to delay before displaying the next luminescent pattern included within the sequence of patterns. The delay duration may vary by device, and the amount of delay time that elapses between the display of one luminescent pattern and the next need not be constant as each pattern may be associated with its own measure of delay. Furthermore, the delay durations may be determined based upon one or more factors/properties including the distance between a given client device and another (e.g. previous/next) client device. Accordingly, the perceived motion of the overall image may remain constant, or alternatively, the perceived motion may accelerate or decelerate if desired.

In another embodiment, synchronization services **307** periodically broadcast timing signals that are spaced apart over a stipulated interval such as e.g. 0.1 seconds.

The timing signals need not be transmitted using the same transport medium as the luminescent patterns. In one embodiment, the timing signals are transmitted over Radio Frequency (RF) via a low-power radio transmitter located at the venue, whereas the luminescent patterns are distributed via a packet-based transport. In other

5 embodiments, the luminescent patterns and timing signals are transmitted using the same transport medium. When a wireless mobile client having received a sequence of luminescent patterns also receives such a timing signal, the wireless mobile client displays the next luminescent pattern in the sequence. In order to address the issue of wireless mobile clients becoming unsynchronized due to one or more clients missing one or more timing signals (e.g. due to a temporary loss of service), each timing signal may include a sequence number corresponding to one luminescent pattern in the sequence of patterns. Accordingly, if a wireless mobile client misses one or more timing signals, the client can skip the display of the luminescent pattern(s) corresponding to the missed signal(s).

15 In yet another embodiment, synchronization services **307** of communication server **300** may provide synchronization data including data to indicate delays between luminescent displays as well as a benchmark synchronization signal to indicate where within a display sequence a wireless mobile client should be with respect to its progress. If the wireless mobile client were to fall behind (or to speed up) with respect

20 to the specified delay and/or display times, the wireless mobile client may rely upon the benchmark synchronization signal for timing adjustment purposes.